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.TITLE STARMISC - MISCELLANEOUS SYSTEM SERVICE MACROS

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; FACILITY: System Service Macros

ABSTRACT:

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This module contains some miscellaneous macros used by the system services.

ENVIRONMENT:

AUTHOR: Various VMS developers, CREATION DATE: 26-Aug-1982

MODIFIED BY:

V03-002 (WH0002 CW Hobbs 30-Apr-1983 Move \$INPUT and \$OUTPUT from STARLET.SDL to this file as these macros are not suitable for general language use.

V03-001 CWH0001 CW Hobbs 26-AUG-1982 Edit STARLET.MAR into STARMISC.MAR as part of the conversion to STARLET.SDL. This contains various macros invoked by the system service definitions.

V02-030 KTA0081 Kerbey T. Altmann 22-Feb-1982 Add \$MOVEADR macro

TF

The following macros are used with system service macro definitions to generate the correct addressing, or to optimize adjacent parameters which are often defaulted.

PUSH ADDRESS MACRO

This macro generates a push address instruction with the correct context. If the address argument was defaulted, a zero is pushed on the stack.

.MACRO \$PUSHADR,ADDR,CONTEXT=L .IF IDN,O,ADDR PUSHL #0 .IFF PUSHA' CONTEXT **ADDR** .ENDC .ENDM **\$PUSHADR**

MOVE ADDRESS MACRO

This macro generates a move address instruction with the correct context. If the address argument was defaulted, the destination is cleared.

.MACRO \$MOVEADR,ADDR,DST,CONTEXT=L IDN, O, ADDR CLR'CONTEXT DST .IFF MOVA' CONTEXT ADDR, DST .ENDC .ENDM **\$MOVEADR**

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PUSHL VAL .ENDC \$ASNPUSH

.ENDM

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```
MACRO TO GENERATE GENERAL ARGUMENT LIST.
THE FIRST PARAMETER IS THE TOTAL NUMBER OF ARGUMENTS TO GENERATE.
  ANY DEFAULTED ARGUMENTS GENERATE A LONGWORD OF ZERO.
          .MACRO SARGLST LEN,P1,P2,P3,P4,P5,P6,P7,P8,P9,PA,PB,PC,PD,-
                            PE, PF
                   $$11=0
                   .ADDRESS LEN
.IRP_$$T2.<P1,P2.P3.P4.P5.P6.P7.P8.P9.PA.PB.PC.PD.PE.PF>
                   .IF EQ LEN-SST1
                   .MEXIT
                   .ENDC
                   .IF NB $$T2
                                      $$T2
                   .ADDRESS
                   .IFF
                   .ADDRESS
                    .ENDC
                   $$T1=$$T1+1
                    .ENDM
         .ENDM
                   $ARGLST
  MACRO TO GENERATE OFFSET DEFINITION NAMES. THE OFFSETS ARE DEFINED
  WITHIN THE SNAME FORM OF THE MACRO.
          .MACRO SOFFDEF, MNAME, LIST
                   .NLIST
                   SST1 = 4
                   $$ARGS=0
                   .IRP $$12,<LIST>
MNAME'S '$$12 = $$11
$$11 = $$11 + 4
                   $$ARGS=$$ARGS+1
                   .ENDM
                   MNAME'S_NARGS = $$ARGS
                    LIST
         .ENDM SOFFDEF
: MACRO TO GENERATE SYSTEM BUGCHECK
         .MACRO $BUG_CHECK ERROR, TYPE=CONT. WORD ^XFFFF
                   .IIF IDN <TYPE>, <FATAL> , .ADDRESS <'ERROR'&'XOFFFFFFF8>!4
.IIF DIF <TYPE>, <FATAL> , .ADDRESS 'ERROR'
          .ENDM
                   $BUG_CHECK
    $INPUT
       SINPUT Macro
        $INPUT chan ,length ,buffer ,[iosb] ,[efn]
```

```
STARMISC.MAR:1
       chan = number of the channel on which I/O is to be performed
        length = length of the input buffer
       buffer = address of the input buffer
       iosb = address of quadword 1/0 status block efn = event flag to set on completion
         .MACRO
                 $INPUT CHAN, LENGTH, BUFFER, IOSB=0, EFN=#0
                  $$QIOINPUT
                                   INPUT, CHAN, LENGTH, BUFFER, IOSB, EFN
         .ENDM
                 $INPUT
    SOUTPUT
      $OUTPUT Macro
       $OUTPUT chan, length, buffer, [iosb], [efn]
       chan = channel on which I/O is directed
       length = length of the output buffer
buffer = address of the output buffer
iosb = address of quadword I/O status block
               = event flag number to set on completion
       efn
:--
                 SOUTPUT CHAN, LENGTH, BUFFER, IOSB=0, EFN=#0
         .MACRO
                  $$0100UTPUT
                                   OUTPUT.CHAN.LENGTH.BUFFER.IOSB.EFN
         .ENDM
                 SOUTPUT
; MACRO TO CONVERT SINPUT CALL TO SQIOW CALL
         .MACRO $$QIOINPUT QIOTYPE,QIOCHAN,QIOLENGTH,QIOBUFFER,QIOIOSB,QIOEFN
         $10DEF
         $QIOW_S EFN=<QIOEFN>,CHAN=<QIOCHAN>,FUNC=#IO$_READVBLK,IOSB=<QIOIOSB>,-
                  P1=<QIOBUFFER>,P2=<QIOLENGTH>
                 $$QIQINPUT
         .ENDM
: MACRO TO CONVERT SOUTPUT CALL TO SQIOW CALL
         .MACRO $$QIOOUTPUT QIOTYPE,QIOCHAN,QIOLENGTH,QIOBUFFER,QIOIOSB,QIOEFN
         $10DEF
         $QIOW_S EFN=<QIOEFN>,CHAN=<QIOCHAN>,FUNC=#IQ$_WRITEVBLK,IOSB=<QIOIOSB>,-
                  P1=<QIOBUFFER>,P2=<QIOLENGTH>,P4=#32
                 $$0100UTPUT
         .ENDM
         .LIST
```

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